

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Previously presented): An image capturing method in which an image of a subject is captured by an image capturing device using image capturing optics and an image capturing signal from said image capturing device is subjected to specified processing schemes including a color separating process, thereby producing an image signal, said method comprising the steps of:

determining whether sensitivity of said image capturing device is insufficient or not during image capturing;

when the sensitivity of said image capturing device is insufficient, relatively increasing both an overlapping region of spectral sensitivity of said image capturing device and intensity of said color separating process, when the sensitivity of said image capturing device is sufficient, relatively decreasing at least one of the overlapping region of the spectral sensitivity of said image capturing device and the intensity of said color separating process, and

wherein, when relatively increasing or decreasing the intensity of said color separating process, an occurrence of noise generation is not thereby increased during color separation.

2. (Original): The image capturing method according to claim 1, wherein the overlapping region of the spectral sensitivity of said image capturing device is an infrared region.

3. (Original): The image capturing method according to claim 1, wherein said color separating process is an Under Color Removal scheme.

4. (Previously presented): An image capturing apparatus comprising:
an image capturing device that captures an image of a subject using image capturing optics;
a device for producing an image signal by performing specified processing schemes including a color separation process on an image capturing signal from said image capturing device;
a device which determines whether sensitivity of said image capturing device is insufficient or not during image capturing;
a device which, when the sensitivity of said image capturing device is insufficient, relatively increases an overlapping region of spectral sensitivity of said image capturing device and a device which, when the sensitivity of said image capturing device is insufficient, relatively increases intensity of said color separating process; and
at least one of a device which, when the sensitivity of said image capturing device is sufficient, relatively decreases the overlapping region of the spectral sensitivity of said image capturing device and a device which, when the sensitivity of said image capturing device is sufficient, relatively decreases the intensity of said color separating process,

wherein, when the intensity of said color separating process is relatively increased or decreased, an occurrence of noise generation is not thereby increased during color separation.

5. (Original): The image capturing apparatus according to claim 4, wherein the overlapping region of the spectral sensitivity of said image capturing device is an infrared region.

6. (Original): The image capturing apparatus according to claim 4, wherein said color separating process is an Under Color Removal scheme.

7. (Previously presented): The image capturing apparatus according to claim 4, wherein after the image capturing device captures the image of a subject the image is converted to exposure data and the exposure data is subjected to color separation.

8. (Previously presented): An image capturing method according to claim 1, wherein when the sensitivity of said image capturing device is sufficient, relatively decreasing both the overlapping region of spectral sensitivity of said image capturing device and the intensity of said color separating process.

9. (Previously presented): The image capturing apparatus according to claim 4, wherein when the sensitivity of said image capturing device is sufficient, relatively decreasing both the overlapping region of spectral sensitivity of said image capturing device and the intensity of said color separating process.

10. (Previously presented): The image capturing apparatus according to claim 4, wherein said device for producing the image signal by performing specified processing schemes does not generate noise.

11. (Previously presented): The image capturing apparatus according to claim 4, wherein said image capturing apparatus comprises a device for maintaining a consistent aperture.

12. (Previously presented): The image capturing apparatus according to claim 4, wherein said image capturing apparatus comprises a device for maintaining a consistent shutter speed.

13. (Previously presented): The image capturing apparatus according to claim 4, wherein said sensitivity is based on a spectral response of said image capturing device.

14. (previously presented): The image capturing method according to claim 1, wherein the process of increasing the intensity itself does not increase the occurrence of noise.

15. (previously presented): The image capturing method according to claim 1, wherein amplification is not required to increase the intensity of said color separating process.

16. (previously presented): The image capturing method according to claim 1, further comprising capturing a still image.

17. (previously presented): The image capturing method according to claim 1, further comprising: converting the image capturing signal into exposure data; and adjusting the coefficients of the exposure data to perform said color separating process.

18. (previously presented): The method of claim 1, wherein the color separating process is a masking process.

19. (new): The image capturing method according to claim 1, wherein said image capturing optics includes an IR cutting filter for cutting off infrared light,

when said sensitivity of said image capturing device is insufficient, said IR cutting filter is removed from said image capturing optical path of said image capturing optics, and thereafter said image of the subject is captured by said image capturing device, and

when said sensitivity of said image capturing device is sufficient, said IR cutting filter is arranged into said image capturing optical path, and thereafter said image of the subject is captured by said image capturing device, and

wherein said intensity of said color separating process is determined adaptively by comparing two kinds of image data, one being first capturing image data obtained by capturing said image of the subject with said IR cutting filter inserted in said image capturing optical path and the other being second capturing image data obtained by capturing said image of the subject when said IR cutting filter is removed from said image capturing optical path.

20. (new): The image capturing method according to claim 19, wherein said color separating process is an Under Color Removal scheme and said intensity of said color separating process is an amount of Under Color to be removed in said Under Color Removal scheme, which is determined adaptively by comparing said first capturing image data and said second capturing image data.

21. (new): The image capturing method according to claim 19, wherein said color separating process is a matrix operation on exposure data obtained by converting capturing image data obtained by capturing said image of the subject, and said intensity of said color separating process is coefficients in said matrix operation, which are determined adaptively by comparing first exposure data converted from said first capturing image data and second exposure data converted from said second capturing image data.

22. (new): The image capturing apparatus according to claim 4, wherein said image capturing optics includes an IR cutting filter for cutting off infrared light and an IR cutting filter removing device for removing said IR cutting filter from said image capturing optical path of said image capturing optics and arranging said IR cutting filter into said image capturing optical path,

when said sensitivity of said image capturing device is insufficient, said IR cutting filter is removed from said image capturing optical path by said IR cutting filter removing device, and thereafter said image of the subject is captured by said image capturing device, and

when said sensitivity of said image capturing device is sufficient, said IR cutting filter is arranged into said image capturing optical path by said IR cutting filter removing device, and thereafter said image of the subject is captured by said image capturing device, and

wherein said intensity of said color separating process is determined adaptively by comparing two kinds of image data, one being first capturing image data obtained by capturing said image of the subject with said IR cutting filter inserted in said image capturing optical path

and the other being second capturing image data obtained by capturing said image of the subject when said IR cutting filter is removed from said image capturing optical path.

23. (new): The image capturing apparatus according to claim 22, where in color separating process is an Under Color Removal scheme and said intensity of said color separating process is an amount of Under Color to be removed in said Under Color Removal scheme, which is determined adaptively by comparing said first capturing image data and said second capturing image data.

24. (new): The image capturing apparatus according to claim 22, wherein said color separating process is a matrix operation on exposure data obtained by converting capturing image data obtained by capturing said image of the subject, and said intensity of said color separating process is coefficients is said matrix operation, which are determined adaptively by comparing first exposure data converted from said first capturing image data and second exposure data converted from said second capturing image data.